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SOIL SURVEY INTERPRETATIONS FOR WOODLANDS

IN THE

CUMBERLAND PLATEAU AND MOUNTAINS

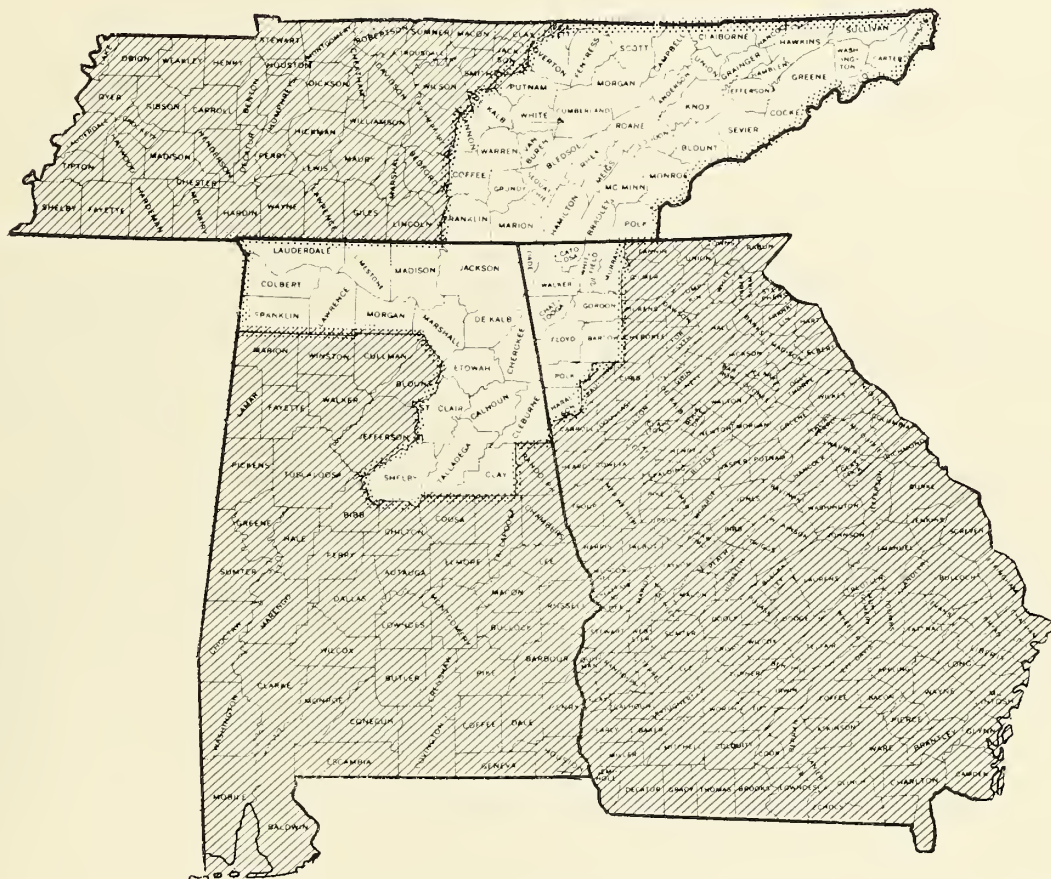
AND THE SOUTHERN APPALACHIAN RIDGES AND VALLEY OF

ALABAMA, GEORGIA, AND TENNESSEE

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PROGRESS REPORT W-11 --- MAY 1969

UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service
Fort Worth, Texas

This report contains interpretations of soil surveys for woodland use and management in the Cumberland Plateau and Mountains and the Southern Appalachian Ridges and Valleys of Alabama, Georgia, and Tennessee. The purpose is to provide currently available knowledge about soils as they relate to the establishment, growth, management, and harvesting of wood crops for the use of foresters, agricultural workers, woodland owners, and woodland managers. The information will be used by the Soil Conservation Service and cooperating agencies in the development of technical guides, soil handbooks, and published soil survey reports.

Field information was gathered by teams of foresters and soil scientists. Representatives of Federal and State agencies, the woodusing industry, and others cooperated in gathering field data. The interpretations presented herein are made for use with soil surveys.

Table 2, SOIL RATINGS FOR WOODLAND USE, includes some evaluations for individual soils. The soil series listed are those defined according to the current soil classification system and includes portions of soil associations mapped in low intensity surveys. In column one (1) erosion and texture phases were consolidated within a soil series where no differences in productivity, species suitability, or management problems existed.

Column two (2) includes a list of some of the commercially important tree species which are adapted to the soil in column one. These are the tree species which woodland managers generally favor in intermediate or improvement cuttings, after considering the form and vigor of individual trees. Priority between species will be influenced by local marketability and the owners' objectives, as well as the quality of wood products from a given species.

Column three (3) indicates the average site index for the most important species listed in column two. The standard deviation is shown as a plus or minus figure (+) for each species where five or more plots were taken on the soils listed in column one. The site index curves used for each tree species are shown in Table 1, GUIDE FOR WOODLAND SUITABILITY CLASSES. An asterisk (*) following the site index rating indicates the rating is an estimate based on the same species on a similar soil, or by comparison with another species on the same soil. Site index is the average height of dominant trees at age 30 for cottonwood, age 35 for sycamore, and age 50 for all other species.

Column four (4) indicates the range of site index of the most important tree species in column two. The range of site index values is dependent on soil physical conditions, aeration, and nutrient and moisture availability during the growing season.

Column five (5) evaluates the potential erosion hazard of the soil in woodland use following cutting operations, or where the soil is exposed along roads, trails, firebreaks, or log-yarding areas. A rating of slight indicates that problems of erosion control are unimportant. A rating of moderate indicates some attention must be given to prevent unnecessary soil erosion. A rating of severe indicates that intensive treatments, or special equipment and methods of operation should be planned to minimize soil erosion. The potential erosion hazard is based on slope, soil depth, and erodibility, and soil loss tolerance.

Column six (6) includes evaluation of equipment restrictions. Ratings reflect limitations in the use of equipment for managing or harvesting the tree crop. A rating of slight indicates equipment use is seldom limited in

kind or time of year. A rating of moderate indicates a need for modified equipment or seasonal restrictions due to slope, stones, obstructions, soil wetness, flooding, or overflows. A rating of severe indicates the need for specialized equipment due to one or more of the factors listed above.

Column seven (7) indicates the degree of expected seedling mortality during the first two growing seasons after planting or seeding. Normal rainfall, adequate site preparation, good planting stock, proper planting methods, and appropriate protection and cultivation are assumed. A rating of slight indicates that unsatisfactory survival on less than 25 percent of the area is likely. A rating of moderate indicates that unsatisfactory survival is likely on 25 to 50 percent of the area planted. A rating of severe indicates that unsatisfactory survival is likely on more than 50 percent of the area.

Column eight (8) lists several suitable tree species for planting on the soil named in column one. The list may include some species which do not normally occur in native stands on the designated soil or in this physiographic area, as well as some of the important species listed in column two.

Column nine (9) shows the ordination of the soils into a woodland suitability group. A woodland suitability group is made up of kinds of soils that are capable of producing similar kinds of wood crops, that need similar management to produce these crops, and that have about the same potential productivity. The ordination system and the suitability group symbols are explained in the following paragraphs.

The first element of the group symbol indicates the woodland suitability class. It expresses site quality by an arabic numeral ranging from 1 to 5, with class 1 the highest in potential productivity, followed by class 2, 3,

4, and 5. It is based on the average site index of one or more indicator forest types or tree species, as shown in Table 1, GUIDE FOR WOODLAND SUITABILITY CLASSES. The indicator species are underscored in column two of Table 2.

The second element in the symbol indicates the suitability subclass. It expresses selected soil properties that cause moderate to severe hazards or limitations in woodland use or management, by one of the following lower case arabic letters:

Subclass x (stoniness or rockiness). Soils having restrictions or limitations for woodland use or management due to stones or rocks.

Subclass w (excessive wetness). Soils in which excessive water, either seasonally or year long, causes significant limitations for woodland use or management. These soils have restricted drainage, high water tables, or overflow hazards which adversely affect either stand development or management.

Subclass d (restricted rooting depth). Soils with restrictions or limitations for woodland use or management due to restricted rooting depths. Soils shallow to hard rock, hardpan, or other layers in the soil that restrict roots are examples.

Subclass c (clayey soils). Soils having restrictions or limitations for woodland use or management due to the kind or amount of clay in the upper portion of the soil profile.

Subclass s (sandy soils). Sandy soils with little or no textural B horizons and having moderate to severe restrictions or limitations for woodland use or management. These soils impose equipment limitations, have low moisture-holding capacity, and normally are low in available plant nutrients.

Subclass f (fragmental or skeletal soils). Soils with restrictions or limitations for woodland use or management due to large amounts of coarse fragments in the profile over 2 mm and less than 10 inches, but includes flaggy soils.

Subclass r (relief or slope steepness). Soils with restrictions or limitations for woodland use or management due only to steepness of slope.

Subclass o (slight or no limitations). Soils with no significant restrictions or limitations for woodland use or management.

Some kinds of soil may have more than one set of subclass characteristics. Priority in placing each kind of soil into a subclass is in the order that the subclass characteristics are listed above.

The third element in the symbol indicates the degree of hazards or limitations, and the general suitability of the soils for certain kinds of trees. The three management problems considered here are: (1) erosion hazard, (2) equipment restrictions, and (3) seedling mortality.

The numeral 1 indicates soils with no to slight management problems, and they are best suited for needleleaf trees.

The numeral 2 indicates soils with one or more moderate management problems, and they are best suited for needleleaf trees.

The numeral 3 indicates soils with one or more severe management problems, and they are best suited for needleleaf trees.

The numeral 4 indicates soils with no to slight management problems, and they are best suited for broadleaf trees.

The numeral 5 indicates soils with one or more moderate management problems, and they are best suited for broadleaf trees.

The numeral 6 indicates soils with one or more severe management problems, and they are best suited for broadleaf trees.

The numeral 7 indicates soils with no to slight management problems, and they are suitable for either needleleaf or broadleaf trees.

The numeral 8 indicates soils with one or more moderate management problems, and they are suitable for either needleleaf or broadleaf trees.

The numeral 9 indicates soils with one or more severe management problems, and they are suitable for either needleleaf or broadleaf trees.

A fourth element, the letter e, has been used to ordinate some severely eroded soils with moderate to severe management problems into a separate "subgroup."

TABLE 1 - GUIDE FOR WOODLAND SUITABILITY CLASSES
CUMBERLAND PLATEAU-APPALACHIAN VALLEY AND RIDGES

Indicator Forest Type or Species	: 1 : 2 : 3 : 4 : 5				
	: Very : High	: High	: Moderately : High	: Moderate	: Low
	: Site Index				
Cottonwood	(1): 106+	: 96-105	: 86-95	: 76-85	: 75-
Yellow-poplar	(2): 106+	: 96-105	: 86-95	: 76-85	: 75-
Sweetgum	(3): 96+	: 86-95	: 76-85	: 66-75	: 65-
Water oaks	(4): 96+	: 86-95	: 76-85	: 66-75	: 65-
Nuttall oak	(5): 96+	: 86-95	: 76-85	: 66-75	: 65-
Loblolly pine	(6): 96+	: 86-95	: 76-85	: 66-75	: 65-
Shortleaf pine	(6): 86+	: 76-85	: 66-75	: 56-65	: 55-
Sou. red oak	(7): 86+	: 76-85	: 66-75	: 56-65	: 55-
Eastern redcedar	(8): 66+	: 56-65	: 46-55	: 35-45	: 35-
American sycamore	(9): 106+	: 96-105	: 86-95	: 76-85	: 75-

- (1) Broadfoot, W. M., 1960, Field Guide for Evaluating Cottonwood Sites, USFS Occ. Paper 178 (Fig. 4).
- (2) Doolittle, W. T., 1957, Site Index Curves for Yellow-poplar-Southern Appalachians.
- (3) Broadfoot, W. M., 1959, Guide for Evaluating Sweetgum Sites, USFS Occ. Paper 176 (Fig. 4).
- (4) Broadfoot, W. M., 1963, Guide for Evaluating Water Oak Sites in the Mid-South, USFS Res. Paper SO-1 (Fig. 4).
- (5) Broadfoot, W. M., Unpublished manuscript, Sou. For. Expmt. Sta., 1966.
- (6) Coile, T. S. and F. X. Schumacher, Jour. For. 53:432-435 (Fig. 4 and 8).
- (7) Schnur, L. G., 1937, Yield, Stand and Volume Tables for Even-Aged Upland Oak Forests, USDA Tech. Bull. 560, Fig. 2.
- (8) TVA 1948, Site Curves, Eastern Redcedar, Tennessee Valley.
- (9) Briscoe, C. B. and M. D. Ferrill, 1958, Forestry Note 19, Louisiana State University.

TABLE 2. SOIL RATINGS FOR WOODLAND USE

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Cumberland Plateau and Southern Appalachians

Soils	Potential Productivity			Management Problems			Species Suitable for Planting	Ordination Woodland Suitability Group
	Tree Species	Avg. Site Index & Standard Deviation	Range of Site Index	Erosion Hazard	Equipment Restriction	Seedling Mortality		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
<u>Albertville</u> fine sandy loam to loam, 2 to 12% slopes	<u>Loblolly pine</u> <u>Shortleaf pine</u> <u>Virginia pine</u> <u>Upland oaks</u>	80+4 71+4 70* 70	71-84 66-76 59-82 65-75	Slight	Slight	Slight	Loblolly pine Virginia pine	3o7
fine sandy clay loam to clay, 2 to 12% slopes eroded	<u>Loblolly pine</u> <u>Shortleaf pine</u> <u>Virginia pine</u>	74+9 68+2 64	65-72 65-74 50-74	Slight	Moderate	Moderate		4c2
<u>Alcoa</u> silt loam to clay loam, 2 to 20% slopes	<u>Yellow-poplar</u> <u>Upland oaks</u> <u>Shortleaf pine</u> <u>Virginia pine</u> <u>White pine</u> <u>Loblolly pine</u> <u>Black walnut</u>	90* 70* 70* 70* 80* 80* -	86-95 66-75 66-75 66-75 76-85 76-85 -	Slight	Slight	Slight	<u>Yellow-poplar</u> <u>Black walnut</u> <u>Loblolly pine</u> <u>White pine</u> <u>Shortleaf pine</u>	3o7
<u>Allegheny</u> silt loam to fine sandy loam, 2 to 20% slopes	<u>Yellow-poplar</u> <u>Upland oaks</u> <u>Black walnut</u> <u>White ash</u> <u>Sugar maple</u> <u>Black cherry</u> <u>White pine</u>	100* 80* - - - - 90*	96-105 76-85 - - - - 86-95	Slight	Slight	Slight	<u>Yellow-poplar</u> <u>Black walnut</u> <u>White pine</u>	2o7
<u>Allen</u> fine sandy loam to clay loam, 2 to 20% slopes	<u>Yellow-poplar</u> <u>Shortleaf pine</u> <u>Virginia pine</u> <u>Upland oaks</u> <u>Eastern redcedar</u> <u>White ash</u> <u>Sugar maple</u> <u>Black walnut</u> <u>Black cherry</u>	87 71+10 73 71 61 - - - -	85-97 59-82 69-78 67-75 56-65 - - - -	Slight	Slight	Slight	<u>Yellow-poplar</u> <u>Shortleaf pine</u> <u>Virginia pine</u> <u>Loblolly pine</u> <u>Black walnut</u> <u>White pine</u>	3o7
20 to 45% slopes				Moderate	Moderate	Slight		3r8
stony fine sandy loam to stony loam, 12 to 45% slopes				Slight to Moderate	Moderate	Slight		3x8
<u>Apison</u> clay loam to fine sandy loam, 2 to 20% slopes	<u>Yellow-poplar</u> <u>Upland oaks</u> <u>Shortleaf pine</u> <u>Virginia pine</u> <u>Loblolly pine</u>	90* 70* 70* 70* 80*	86-95 66-75 66-75 66-75 76-85	Slight	Slight	Slight	<u>Shortleaf pine</u> <u>Loblolly pine</u>	3o7
<u>Armuchee</u> silt loam, 2 to 20% slopes	<u>Shortleaf pine</u> <u>Virginia pine</u> <u>Upland oaks</u> <u>Loblolly pine</u> <u>Eastern redcedar</u>	60* 60* 60* 70* 40*	56-65 56-65 56-65 66-75 36-45	Slight	Slight	Moderate to Severe	<u>Virginia pine</u> <u>Loblolly pine</u>	4d3
20 to 50% slopes				Moderate	Moderate	Moderate to Severe		
silty clay loam to silty clay, 5 to 20% slopes severely eroded	<u>Shortleaf pine</u> <u>Virginia pine</u> <u>Loblolly pine</u> <u>Eastern redcedar</u>	50* 50* 60* 30*	46-55 46-55 56-65 26-35	Moderate to Severe	Moderate to Severe	Severe	<u>Virginia pine</u> <u>Loblolly pine</u>	5d3

TABLE 2. SOIL RATINGS FOR WOODLAND USE

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Cumberland Plateau and Southern Appalachians

Soils	Potential Productivity			Management Problems			Species Suitable for Planting	Ordination Woodland Suitability Group
	Tree Species	Avg. Site Index & Standard Deviation	Range of Site Index	Erosion Hazard	Equipment Restriction	Seedling Mortality		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
<u>Atkins</u> silt loam to fine sandy loam 0 to 2% slopes	<u>Loblolly pine</u> <u>Sweetgum</u> Oaks Red maple Sycamore	86+5 94 80* - -	80-92 90-100 76-85 - -	Slight	Severe	Severe	Loblolly pine	2w9
<u>Barbourville</u> silt loam to fine sandy loam 0 to 12% slopes	<u>Yellow-poplar</u> <u>Upland oaks</u> <u>Loblolly pine</u> Shortleaf pine White pine Black cherry White ash Sugar maple Black walnut	100* 80* 90* 80* 90* - - - - -	96-105 76-85 86-95 76-85 86-95 - - - - -	Slight	Slight	Slight	Yellow-poplar Black walnut Loblolly pine White pine	2o7
<u>Barfield</u> silty clay loam to clay loam 2 to 30% slopes	<u>Eastern redcedar</u>	40+8	30-48	Moderate	Moderate	Moderate to Severe	Eastern redcedar	4d3
very rocky clay loam, 2 to 30% slopes		30*	26-35	Moderate	Severe	Severe		5x3
<u>Beason</u> silt loam, 0 to 2% slopes	<u>Yellow-poplar</u> <u>Sweetgum</u> White oak Red oaks <u>Loblolly pine</u>	90* 80* 70* 70* 80*	86-95 76-85 66-75 66-75 76-85	Slight	Moderate	Slight	Loblolly pine Sweetgum	3w8
<u>Bodine</u> Cherty silt loam, 5 to 20% slopes on all aspects and 20 to 40% slopes north aspect	Shortleaf pine <u>Yellow-poplar</u> <u>Upland oaks</u> Virginia pine Loblolly pine	58+11 91+17 69+8 70* 70*	48-76 79-123 55-79 65-75 66-75	Slight to Moderate	Slight to Moderate	Moderate	Loblolly pine Shortleaf pine	3f8
20 to 40% slopes south aspect and ridge tops	Virginia pine <u>Chestnut oak</u> Scarlet oak Eastern redcedar	60* 55* 55* 40*	56-65 50-60 50-60 36-45	Moderate	Moderate to Severe	Moderate to Severe	Virginia pine Eastern redcedar	4f3
<u>Bolton</u> loam to silt loam, 5 to 20% slopes	Shortleaf pine <u>Yellow-poplar</u> <u>Upland oaks</u> <u>Loblolly pine</u> White pine Virginia pine Black walnut	70* 90* 70* 80* 80* 70* -	66-75 86-95 66-75 76-85 76-85 66-75 -	Slight	Slight	Slight	Yellow-poplar Black walnut Loblolly pine Shortleaf pine White pine	3o7
20 to 45% slopes		-	-	Moderate	Moderate	Moderate		3r8
silty clay loam to clay loam, 12 to 30% slopes severely eroded	<u>Loblolly pine</u> White pine Shortleaf pine Virginia pine	70* 70* 60* 60*	66-75 66-75 56-65 46-65	Moderate	Moderate to Severe	Moderate	Loblolly pine Shortleaf pine White pine Virginia pine	4c3e
<u>Bradyville</u> silt loam to silty clay loam 0 to 20% slopes	<u>Yellow-poplar</u> <u>Upland oaks</u> <u>Eastern redcedar</u> Hackberry Hickory Black walnut	90* 70* 50* - - -	86-95 66-75 46-55 - - -	Slight	Slight	Slight	Black walnut Loblolly pine Eastern redcedar	3o7

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Cumberland Plateau and Southern Appalachians

Soils	Potential Productivity			Management Problems			Species Suitable for Planting	Ordination Woodland Suitability Group
	Tree Species	Avg. Site Index & Standard Deviation	Range of Site Index	Erosion Hazard	Equipment Restriction	Seedling Mortality		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
<u>Bruno</u> loamy fine sand to sandy loam, 0 to 5% slopes	<u>Bottomland oaks</u> Sweetgum Loblolly pine White pine Sycamore	80* 80* 80* 80* -	76-85 76-85 76-85 76-85 -	Slight	Moderate	Severe	Loblolly pine White pine	3s9
<u>Camp</u> silt loam, 0 to 12% slopes	<u>Yellow-poplar</u> <u>Upland oaks</u> Shortleaf pine White pine Loblolly pine Black cherry White ash Sugar maple Black walnut	100* 80* 80* 90* 90* - - - - -	96-105 76-85 76-85 86-95 86-95 - - - - -	Slight	Slight	Slight	Black walnut Yellow-poplar White pine Loblolly pine	267
<u>Capshaw</u> silt loam to loam, 0 to 12% slopes	<u>Loblolly pine</u> Yellow-poplar Upland oaks	80* 90* 70*	76-85 86-95 66-75	Slight	Slight	Slight	Loblolly pine Shortleaf pine	3o7
<u>Captina</u> silt loam, 0 to 12% slopes	<u>Loblolly pine</u> Yellow-poplar Upland oaks Sweetgum	80* 90* 70* 80*	76-85 86-95 66-75 76-85	Slight	Slight	Slight	Loblolly pine	3o7
<u>Carbo</u> silt loam to silty clay loam, 0 to 20% slopes	<u>Shortleaf pine</u> <u>Loblolly pine</u> <u>Eastern redcedar</u>	60* 65* 45*	56-65 60-70 40-50	Slight	Slight	Moderate	Loblolly pine Eastern redcedar	4c2
silty clay to clay, 0 to 20% slopes	<u>Eastern redcedar</u>	35*	30-40	Slight	Moderate	Severe	Eastern redcedar	5c3
very rocky silty clay to clay, 2 to 30% slopes	<u>Eastern redcedar</u>	35*	30-40	Slight	Severe	Moderate to Severe	Eastern redcedar	5x3
<u>Caylor</u> silt loam to loam, 2 to 20% slopes	<u>Yellow-poplar</u> <u>Upland oaks</u> <u>Shortleaf pine</u> White pine Black walnut	100* 80* 80* 90* -	96-105 76-85 76-85 86-95 -	Slight	Slight	Slight	Yellow-poplar Black walnut White pine Loblolly pine	2o7
<u>Chagrin</u> silt loam to gravelly silt loam, 0 to 5% slopes	<u>Yellow-poplar</u> <u>Upland oaks</u> <u>Loblolly pine</u> Shortleaf pine Black walnut Black cherry White ash	100* 80* 90* 80* - - -	96-105 76-85 86-95 76-85 - - -	Slight	Slight	Slight	Yellow-poplar Black walnut Loblolly pine	2o7
<u>Chewacla</u> silt loam to fine sandy loam, 0 to 5% slopes	<u>Yellow-poplar</u> <u>Upland oaks</u> White pine Black walnut White ash	100* 80* 90* - -	96-105 76-85 86-95 - -	Slight	Moderate	Slight	Yellow-poplar White pine Black walnut Loblolly pine	2w8

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Soils	Potential Productivity			Management Problems			Species Suitable for Planting	Ordination Woodland Suitability Group
	Tree Species	Avg. Site Index & Standard Deviation	Range of Site Index	Erosion Hazard	Equipment Restriction	Seedling Mortality		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
<u>Christian</u> silt loam to silty clay loam 2 to 20% slopes	Shortleaf pine Loblolly pine White pine Upland oaks Virginia pine	66 80* 82 66 73	60-70 76-85 76-85 63-74 70-76	Slight	Slight	Slight	Loblolly pine Shortleaf pine Virginia pine	3o7
clay loam to clay, 5 to 20% slopes, severely eroded	Virginia pine Loblolly pine	60* 70*	56-65 66-75	Slight to Moderate	Moderate	Moderate to Severe	Loblolly pine Virginia pine	4c3e
<u>Claiborne</u> silt loam to cherty silt loam 5 to 20% slopes	Yellow-poplar Shortleaf pine Upland oaks Loblolly pine Black walnut	90 66 70* 80* -	86-94 60-70 66-75 76-85 -	Slight	Slight	Slight	Yellow-poplar Black walnut Shortleaf pine Loblolly pine	3o7
20 to 30% slopes				Moderate	Slight	Slight		3r8
silty clay loam to cherty silty clay loam, 5 to 30% slopes, severely eroded	Shortleaf pine Virginia pine Loblolly pine	60* 60* 70*	56-65 56-65 66-75	Moderate	Severe	Moderate	Shortleaf pine Loblolly pine Virginia pine	4c3e
<u>Clymer</u> silt loam to sandy clay, 2 to 20% slopes	Shortleaf pine Upland oaks Virginia pine Loblolly pine	62* 64* 71* 69*	50-78 60-70 55-84 61-76	Slight	Slight	Slight	Loblolly pine Shortleaf pine Virginia pine	3o7
<u>Codorus</u> silt loam to fine sandy loam 0 to 5% slopes	Yellow-poplar Red oaks White pine White ash White oaks	100 80 90 - 70	96-105 76-85 86-95 - 66-75	Slight	Moderate	Slight	Yellow-poplar Black walnut Loblolly pine White pine	2w8
<u>Colbert</u> silt loam to silty clay loam 0 to 20% slopes	Shortleaf pine Loblolly pine Eastern redcedar	60* 65+4 47	56-65 60-69 45-49	Slight	Moderate	Moderate	Loblolly pine Eastern redcedar	4c2
silty clay to clay, 5 to 20% slopes	Eastern redcedar	35*	30-40	Slight to Moderate	Moderate	Severe	Eastern redcedar	5c3
very rocky silty clay to clay, 0 to 30% slopes	Eastern redcedar	37+3	33-43	Slight	Severe	Moderate to Severe	Eastern redcedar	5x3
<u>Comus</u> loam to sandy loam, 0 to 5% slopes	Yellow-poplar Upland oaks Loblolly pine Shortleaf pine White pine Black walnut White ash Black cherry	100* 80* 90* 80* 90* - - - -	96-105 76-85 86-95 76-85 86-95 - - - -	Slight	Slight	Slight	Yellow-poplar Black walnut Loblolly pine White pine	2o7

TABLE 2. SOIL RATINGS FOR WOODLAND USE

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Cumberland Plateau and Southern Appalachians

Soils	Potential Productivity			Management Problems			Species Suitable for Planting	Ordination Woodland Suitability Group
	Tree Species	Avg. Site Index & Standard Deviation	Range of Site Index	Erosion Hazard	Equipment Restriction	Seedling Mortality		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
<u>Conasauga</u> silt loam, 2 to 20% slopes	<u>Shortleaf pine</u>	71	68-74	Slight	Slight	Moderate	Loblolly pine	3c2
	<u>Virginia pine</u>	71	56-65					
	<u>Loblolly pine</u>	73+2	69-74					
	<u>Eastern redcedar</u>	50*	46-55					
silty clay 5 to 20% slopes severely eroded	<u>Loblolly pine</u>	65*	60-70	Slight to Moderate	Moderate to Severe	Moderate to Severe	Loblolly pine Eastern redcedar	4c3e
	<u>Eastern redcedar</u>	40*	36-45					
<u>Cotaco</u> loam to fine sandy loam, 2 to 12% slopes	<u>Yellow-poplar</u>	100*	96-105	Slight	Moderate	Slight	Yellow-poplar Black walnut Loblolly pine White pine	2w8
	<u>Upland oaks</u>	80*	76-85					
	<u>Loblolly pine</u>	90*	86-95					
	<u>White pine</u>	90*	86-95					
	<u>Sweetgum</u>	90*	86-95					
	<u>Black walnut</u>	-	-					
<u>Crossville</u> loam, 2 to 12% slopes	<u>Shortleaf pine</u>	60*	56-65	Slight	Slight	Slight	Shortleaf pine Virginia pine Loblolly pine White pine	4o1
	<u>Virginia pine</u>	61+10	52-74					
	<u>Loblolly pine</u>	70*	66-75					
	<u>White pine</u>	70*	66-75					
<u>Cumberland</u> silt loam to silty clay loam 2 to 20% slopes	<u>Yellow-poplar</u>	90*	86-95	Slight	Slight	Slight	Yellow-poplar Black walnut Loblolly pine Shortleaf pine White pine	3o7
	<u>Upland oaks</u>	70*	66-75					
	<u>Shortleaf pine</u>	70*	66-75					
	<u>Virginia pine</u>	70*	66-75					
	<u>Loblolly pine</u>	80*	76-85					
	<u>White pine</u>	80*	76-85					
	<u>Eastern redcedar</u>	50*	46-55					
	<u>Black walnut</u>	-	-					
silty clay or clay, 5 to 20% slopes, severely eroded	<u>Virginia pine</u>	60*	56-65	Slight to Moderate	Moderate	Moderate to Severe	Loblolly pine Eastern redcedar White pine	4c3e
	<u>Loblolly pine</u>	70*	66-75					
	<u>Eastern redcedar</u>	40*	36-45					
	<u>White pine</u>	70*	66-75					
<u>Dandridge</u> silt loam to shaly silt loam 5 to 20% slopes	<u>Upland oaks</u>	60	57-63	Slight	Moderate	Moderate to Severe	Virginia pine Eastern redcedar	4d3
	<u>Virginia pine</u>	55*	50-60					
	<u>Eastern redcedar</u>	40*	36-45					
	<u>White pine</u>	70	65-75					
silty clay loam to shaly silty clay loam, 5 to 45% slopes, severely eroded	<u>Eastern redcedar</u>	30*	26-35	Moderate to Severe	Severe	Moderate to Severe	Eastern redcedar	5d3
<u>Decatur</u> silt loam to gravelly silt loam, 2 to 20% slopes ----- 20 to 30% slopes	<u>Shortleaf pine</u>	66+4	60-72	Slight	Slight	Slight	Yellow-poplar Black walnut Loblolly pine White pine	3o7
	<u>Yellow-poplar</u>	90*	86-95					
	<u>Upland oaks</u>	70*	66-75					
	<u>Virginia pine</u>	70*	66-75					
	<u>Loblolly pine</u>	80*	76-85					
	<u>White pine</u>	80*	76-85					
	<u>Black walnut</u>	-	-					
silty clay loam to gravelly silty clay loam, 5 to 30% slopes, severely eroded	<u>Loblolly pine</u>	72	67-76	Moderate	Moderate to Severe	Moderate	Loblolly pine Eastern redcedar White pine	4c3e
	<u>Virginia pine</u>	60*	56-65					
	<u>Eastern redcedar</u>	40*	36-45					
	<u>White pine</u>	70*	66-75					

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Soils	Potential Productivity			Management Problems			Species Suitable for Planting	Ordination Woodland Suitability Group
	Tree Species	Avg. Site Index & Standard Deviation	Range of Site Index	Erosion Hazard	Equipment Restriction	Seedling Mortality		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
<u>Dewey</u> silt loam, 2 to 20% slopes	Yellow-poplar	90*	86-95	Slight	Slight	Slight	Yellow-poplar Black walnut Loblolly pine White pine Shortleaf pine	3o7
	Upland oaks	70*	66-75					
	Shortleaf pine	73	66-78					
	Virginia pine	70*	66-75					
----- 20 to 30% slopes	Loblolly pine	78	70-85	Moderate	Moderate	Slight		3r8
	Eastern redcedar	50*	46-55					
	White pine	80*	76-85					
	Black walnut	-	-					
----- silty clay loam 5 to 30% slopes severely eroded	Loblolly pine	70*	66-75	Moderate	Moderate to Severe	Moderate	Loblolly pine Eastern redcedar White pine	4c3e
	Virginia pine	60*	56-65					
	Eastern redcedar	40*	36-45					
	White pine	70*	66-75					
<u>Dowellton</u> silt loam 0 to 5% slopes	Sweetgum	80*	76-85	Slight	Severe	Severe	Loblolly pine Sweetgum	3w9
	Bottomland oaks	80*	76-85					
	Loblolly pine	80*	76-85					
<u>Dunmore</u> silt loam to silty clay loam 2 to 20% slopes	Yellow-poplar	90*	86-95	Slight	Slight	Slight	Yellow-poplar Black walnut Shortleaf pine White pine Loblolly pine	3o7
	Upland oaks	70*	66-75					
	Shortleaf pine	69+7	58-81					
	Virginia pine	70*	66-75					
----- 20 to 30% slopes	Loblolly pine	80*	76-85	Moderate	Moderate	Slight		3r8
	White pine	80*	76-85					
	Eastern redcedar	50*	46-55					
	Black walnut	-	-					
----- very rocky silt loam to silty clay loam, 5 to 30% slopes	White ash	-	-	Moderate	Moderate	Slight		3x8
	Sugar maple	-	-					
----- clay, 5 to 30% slopes, severely eroded	Virginia pine	60*	56-65	Slight to Moderate	Moderate to Severe	Moderate	Loblolly pine Eastern redcedar White pine	4c3e
	Loblolly pine	70*	66-75					
	White pine	70*	66-75					
	Eastern redcedar	40*	36-45					
<u>Dunning</u> silty clay loam to silty clay, 0 to 5% slopes	Sweetgum	90*	86-95	Slight	Severe	Severe	Loblolly pine Cottonwood Sweetgum	2w9
	Bottomland oaks	90*	86-95					
	Loblolly pine	90*	86-95					
	Green ash	-	-					
<u>Egam</u> silt loam to silty clay loam 0 to 5% slopes	Cottonwood	100*	96-105	Slight	Slight	Slight	Yellow-poplar Black walnut Loblolly pine	2o7
	Yellow-poplar	100*	96-105					
	Upland oaks	80*	76-85					
	Bottomland oaks	90*	86-95					
----- Loblolly pine Black walnut	Loblolly pine	90*	86-95	Slight	Severe	Severe	Loblolly pine	2w9
	Black walnut	-	-					
<u>Elkins</u> silt loam, 0 to 2% slopes	Yellow-poplar	86	82-92	Slight	Severe	Severe	Loblolly pine	2w9
	Bottomland oaks	94	89-99					
	Loblolly pine	90*	86-95					
	Sweetgum	90*	86-95					
----- 20 to 40% slopes north aspect	Red maple	-	-	Slight	Slight to Moderate	Moderate	Shortleaf pine White pine	3f8
	Shortleaf pine	70*	66-75					
	Yellow-poplar	90*	86-95					
	Upland oaks	70*	66-75					
----- 20 to 40% slopes south aspects and ridge tops	Virginia pine	70*	66-75	Moderate	Moderate to Severe	Moderate to Severe	Shortleaf pine Virginia pine	4f3
	White pine	80*	76-85					
	Shortleaf pine	60*	56-65					
	Virginia pine	60*	56-65					
----- Upland oaks	Upland oaks	60*	56-65	Moderate	Moderate to Severe	Moderate to Severe		

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Soils	Potential Productivity			Management Problems			Species Suitable for Planting	Ordination Woodland Suitability Group
	Tree Species	Avg. Site Index & Standard Deviation	Range of Site Index	Erosion Hazard	Equipment Restriction	Seeding Mortality		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
<u>Emory</u> silt loam, 0 to 5% slopes	<u>Yellow-poplar</u>	104	91-118	Slight	Slight	Slight	Yellow-poplar Black walnut Loblolly pine White pine	2o7
	<u>Upland oaks</u>	80*	76-85					
	<u>Loblolly pine</u>	90*	86-95					
	<u>White pine</u>	90*	86-95					
	<u>Black walnut</u>	-	-					
	<u>White ash</u>	-	-					
<u>Enders</u> silt loam to silty clay loam 2 to 20% slopes ----- 20 to 30% slopes	<u>Shortleaf pine</u>	58+8	50-68	Slight	Slight	Slight	Loblolly pine Virginia pine	4o1
	<u>Loblolly pine</u>	74	71-77					
	<u>Virginia pine</u>	65*	60-70					
				Moderate	Moderate	Slight		4r2
silty clay to clay, 5 to 20% slopes, eroded	<u>Loblolly pine</u>	70*	66-75	Moderate	Moderate	Moderate to Severe	Loblolly pine Virginia pine Eastern redcedar	5c3
	<u>Shortleaf pine</u>	60*	56-65					
	<u>Virginia pine</u>	60*	56-65					
	<u>Eastern redcedar</u>	40*	36-45					
<u>Ennis</u> silt loam to cherty silt loam, 0 to 5% slopes	<u>Yellow-poplar</u>	100+8	92-115	Slight	Slight	Slight	Yellow-poplar Black walnut Loblolly pine White pine	2o7
	<u>Upland oaks</u>	80*	76-85					
	<u>Loblolly pine</u>	90*	86-95					
	<u>White pine</u>	90*	86-95					
	<u>Black walnut</u>	-	-					
	<u>Black cherry</u>	-	-					
<u>Etowah</u> silt loam to cherty silty clay loam, 2 to 12% slopes	<u>Yellow-poplar</u>	90*	86-95	Slight	Slight	Slight	Yellow-poplar Black walnut Loblolly pine Shortleaf pine	2o7
	<u>Upland oaks</u>	80*	76-85					
	<u>Loblolly pine</u>	90*	86-95					
	<u>Shortleaf pine</u>	80*	76-85					
	<u>Black walnut</u>	-	-					
<u>Farragut</u> silt loam to silty clay loam 2 to 20% slopes ----- clay, 5 to 20% slopes, severely eroded	<u>Yellow-poplar</u>	90*	86-95	Slight	Slight	Slight	Yellow-poplar Black walnut Loblolly pine Shortleaf pine White pine	3o7
	<u>Upland oaks</u>	70*	66-75					
	<u>Shortleaf pine</u>	70*	66-75					
	<u>Loblolly pine</u>	80*	76-85	Moderate	Moderate to Severe	Moderate to Severe	Loblolly pine Virginia pine White pine Eastern redcedar	4c3e
	<u>White pine</u>	80*	76-85					
	<u>Virginia pine</u>	70*	66-75					
	<u>Eastern redcedar</u>	50*	46-55	Moderate	Moderate	Slight	Shortleaf pine Loblolly pine Virginia pine White pine	3o7
	<u>Black walnut</u>	-	-					
<u>Fullerton</u> silt loam to cherty silt loam 5 to 20% slopes ----- 20 to 45% slopes	<u>Yellow-poplar</u>	90+10	76-100	Slight	Slight	Slight	Shortleaf pine Loblolly pine Virginia pine White pine	3o7
	<u>Upland oaks</u>	70+5	63-78					
	<u>Loblolly pine</u>	74+6	66-83					
	<u>Shortleaf pine</u>	67+5	60-77	Moderate	Moderate	Slight	Shortleaf pine Loblolly pine Virginia pine White pine	3r8
	<u>White pine</u>	68+6	61-78					
	<u>Eastern redcedar</u>	50*	46-55					
cherty silty clay loam, 12 to 45% slopes, severely eroded ----- 30 to 45% slopes south aspect and ridge tops	<u>Loblolly pine</u>	70*	66-75	Slight to Severe	Moderate to Severe	Moderate to Severe	Loblolly pine Virginia pine Eastern redcedar White pine	4c3e
	<u>Virginia pine</u>	60*	56-65					
	<u>Eastern redcedar</u>	40*	36-45					
	<u>White pine</u>	70*	66-75					4r2

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Soils	Potential Productivity			Management Problems			Species Suitable for Planting	Ordination Woodland Suitability Group
	Tree Species	Avg. Site Index & Standard Deviation	Range of Site Index	Erosion Hazard	Equipment Restriction	Seedling Mortality		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
<u>Cilpin</u> silt loam to loam, 5 to 20% slopes	<u>Shortleaf pine</u>	65+8	51-81	Slight	Slight	Slight	Shortleaf pine	3o7
	<u>Virginia pine</u>	72+8	59-87				Virginia pine	
	Upland oaks	70*	66-75				Loblolly pine	
	Loblolly pine	80*	76-85				White pine	
-----	White pine	80*	76-85	-----	-----	-----		-----
20 to 45% slopes north aspects	Yellow-poplar	90*	86-95	Moderate	Moderate	Slight		3r8
-----				-----	-----	-----		-----
20 to 45% slopes south aspects	<u>Shortleaf pine</u>	60*	56-65	Moderate	Moderate	Moderate		4r2
	<u>Virginia pine</u>	60*	56-65					
	Upland oaks	60*	56-65					
	Loblolly pine	70*	66-75					
<u>Greendale</u> silt loam to cherty silt loam, 0 to 12% slopes	<u>Yellow-poplar</u>	100*	85-105	Slight	Slight	Slight	Yellow-poplar	2o7
	Upland oaks	80*	70-85				Black walnut	
	Shortleaf pine	80*	70-85				Loblolly pine	
	<u>Loblolly pine</u>	90*	80-95				Shortleaf pine	
	Black walnut	-	-					
	Black cherry	-	-					
	Sugar maple	-	-					
	White ash	-	-					
<u>Groseclose</u> silt loam to silty clay loam 2 to 20% slopes	<u>Yellow-poplar</u>	90*	86-95	Slight	Slight	Slight	Yellow-poplar	3o7
	Upland oaks	70*	66-75				Black walnut	
	<u>Shortleaf pine</u>	70*	66-75				Shortleaf pine	
	Virginia pine	70*	66-75				White pine	
	Loblolly pine	80*	76-85	-----	-----	-----	Loblolly pine	
	White pine	80*	76-85	Moderate	Moderate	Slight		3r8
	Eastern redcedar	50*	46-55					
	Black walnut	-	-					
	White ash	-	-					
	Sugar maple	-	-					
-----				-----	-----	-----		-----
clay, 5 to 30% slopes, severely eroded	<u>Virginia pine</u>	60*	56-65	Slight to Moderate	Moderate to Severe	Moderate	Loblolly pine	4 c3e
	Loblolly pine	70*	66-75				Eastern redcedar	
	White pine	70*	66-75				White pine	
	Eastern redcedar	40*	36-45					
<u>Hambleton</u> silt loam to fine sandy loam 0 to 5% slopes	<u>Yellow-poplar</u>	100*	96-105	Slight	Moderate	Slight	Loblolly pine	2w8
	Upland oaks	80*	76-85				Yellow-poplar	
	Loblolly pine	90*	86-95					
<u>Hartsells</u> loam to fine sandy loam, 2 to 20% slopes	<u>Shortleaf pine</u>	62+7	55-67	Slight	Slight	Slight	Loblolly pine	4o1
	<u>Virginia pine</u>	72+8	55-84				Shortleaf pine	
	Loblolly pine	72+7	61-80				Virginia pine	
<u>Holston</u> loam to gravelly loam, 2 to 20% slopes	<u>Yellow-poplar</u>	86+3	80-94	Slight	Slight	Slight	Yellow-poplar	3o7
	Upland oaks	78+6	70-85				Loblolly pine	
	Shortleaf pine	69+7	61-80				Virginia pine	
	Loblolly pine	85*	80-90				Shortleaf pine	
	Virginia pine	73	70-80				Black walnut	
<u>Humphreys</u> silt loam to gravelly silt loam, 2 to 20% slopes	<u>Yellow-poplar</u>	101	84-110	Slight	Slight	Slight	Yellow-poplar	2o7
	Upland oaks	70*	66-75				Black walnut	
	Shortleaf pine	70*	66-75				Loblolly pine	
	Loblolly pine	90*	85-95					
	Black walnut	-	-					

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Soils	Potential Productivity			Management Problems			Species Suitable for Planting	Ordination Woodland Suitability Group
	Tree Species	Avg. Site Index & Standard Deviation	Range of Site Index	Erosion Hazard	Equipment Restriction	Seedling Mortality		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
<u>Huntington</u> silt loam to gravelly silt loam, 0 to 5% slopes	<u>Yellow-poplar</u> Upland oaks <u>Loblolly pine</u> Shortleaf pine Black walnut Black cherry White ash	100* 80* 90* 80* - - -	96-105 76-85 86-95 76-85 - - -	Slight	Slight	Slight	Yellow-poplar Black walnut Loblolly pine	2o7
<u>Jefferson</u> silt loam to fine sandy loam 2 to 20% slopes ----- 20 to 30% slopes ----- cobbly loam to very stony loam 5 to 30% slopes	<u>Yellow-poplar</u> Upland oaks <u>Shortleaf pine</u> Loblolly pine <u>Virginia pine</u> Black walnut White ash Sugar maple	90* 64+4 66+10 77+5 73+7 - - -	86-95 63-70 55-75 70-85 65-87 - - -	Slight ----- Moderate ----- Slight to Moderate	Slight ----- Moderate ----- Moderate	Slight ----- Slight ----- Slight	Yellow-poplar Black walnut Loblolly pine Shortleaf pine Virginia pine 	3o7 ----- 3r8 ----- 3x8
<u>Johnsburg</u> silt loam, 0 to 5% slopes	Upland oaks Virginia pine <u>Loblolly pine</u> Sweetgum Red maple	70* 70* 82+4 80* -	66-75 66-75 76-88 76-85 -	Slight	Moderate	Moderate	Loblolly pine	3w8
<u>Landisburg</u> silt loam to cherty silt loam 0 to 20% slopes	<u>Yellow-poplar</u> Upland oaks Loblolly pine Shortleaf pine Virginia pine	90* 70* 85* 70* 70*	86-95 66-75 80-90 66-75 66-75	Slight	Slight	Slight	Loblolly pine Shortleaf pine Virginia pine	3o7
<u>Leadvale</u> silt loam, 2 to 20% slopes	<u>Yellow-poplar</u> Upland oaks <u>Loblolly pine</u> Shortleaf pine Virginia pine	90* 64+9 77+5 66 70*	86-95 60-70 68-81 60-70 66-75	Slight	Slight	Slight	Loblolly pine Shortleaf pine Virginia pine	3o7
<u>Lee</u> silt loam to cherty silt loam 0 to 5% slopes	<u>Yellow-poplar</u> Red oaks White oaks <u>Sweetgum</u> Loblolly pine	100* 80* 80* 90* 90*	96-105 76-85 86-95 86-95 86-95	Slight	Severe	Severe	Loblolly pine 1/ Sweetgum 1/	2w9
<u>Lehew</u> loam to fine sandy loam, 5 to 20% slopes all aspects, and 20 to 45% slopes north and east aspects ----- 20 to 45% slopes south and west aspects	Upland oaks <u>Loblolly pine</u> <u>Shortleaf pine</u> Virginia pine White pine <u>Loblolly pine</u> Shortleaf pine <u>Virginia pine</u> White pine	60* 70* 60* 65* 70* 60* 50* 55* 60*	56-65 66-75 56-65 60-70 66-75 56-65 46-55 50-60 56-65	Slight to Moderate ----- Severe	Slight to Moderate ----- Moderate	Moderate ----- Severe	Loblolly pine Shortleaf pine Virginia pine White pine 	4f3 ----- 5f3
1/ Tree planting is feasible only on areas with better than average surface drainage.								

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Soils	Potential Productivity			Management Problems			Species Suitable for Planting	Ordination Woodland Suitability Group
	Tree Species	Avg. Site Index & Standard Deviation	Range of Site Index	Erosion Hazard	Equipment Restriction	Seedling Mortality		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
<u>Lickdale</u> silt loam to silty clay loam 0 to 5% slopes	<u>Red oaks</u> Sweetgum Loblolly pine Red maple	70* 80* 80* -	66-75 76-85 76-85 -	Slight	Severe	Severe	Loblolly pine	3w9
<u>Lindside</u> silt loam to cherty silt loam 0 to 5% slopes	<u>Yellow-poplar</u> Upland oaks Loblolly pine Sweetgum Black walnut	100* 80* 90* 90* -	96-105 76-85 86-95 86-95 -	Slight	Moderate	Slight	Yellow-poplar Black walnut Loblolly pine	2w8
<u>Linker</u> loam to fine sandy loam, 0 to 20% slopes	<u>Shortleaf pine</u> <u>Loblolly pine</u> Upland oaks <u>Virginia pine</u>	65+7 68+6 62+7 72+9	58-73 60-74 52-73 62-83	Slight	Slight	Slight	Loblolly pine Shortleaf pine Virginia pine	4o1
<u>Litz</u> silt loam to loam, 5 to 30% slopes	<u>Yellow-poplar</u> Upland oaks Loblolly pine <u>Shortleaf pine</u> <u>Virginia pine</u>	80* 70* 75* 67+4 73	76-85 66-75 70-80 60-70 67-79	Slight to Moderate	Slight to Moderate	Moderate	Loblolly pine Shortleaf pine Virginia pine	3f8
shaly silty clay loam, 5 to 20% slopes, severely eroded	Loblolly pine Shortleaf pine <u>Virginia pine</u>	65* 60* 60*	60-70 56-55 56-68	Slight	Moderate	Moderate to Severe	Loblolly pine Virginia pine	4c3e
<u>Lobelville</u> silt loam to cherty silt loam 0 to 5% slopes	<u>Yellow-poplar</u> Red oaks Loblolly pine Black walnut White oaks	94 76 90* - -	82-110 71-83 86-95 - -	Slight	Moderate	Slight	Yellow-poplar Black walnut Loblolly pine	2w8
<u>Melvin</u> silt loam, 0 to 2% slopes	<u>Yellow-poplar</u> Upland oaks <u>Loblolly pine</u> Bottomland oaks Sweetgum White pine Green ash	90* 80* 90* 90* 90* 90* -	86-95 76-85 86-95 86-95 86-95 86-95 -	Slight	Severe	Severe	Loblolly pine Sweetgum	2w9
<u>Minvale</u> silt loam to cherty silt loam, 2 to 20% slopes	<u>Yellow-poplar</u> Upland oaks Shortleaf pine Loblolly pine Virginia pine Black walnut	89+8 62 73 80* 70* -	74-96 58-65 65-78 76-85 66-75 -	Slight	Slight	Slight	Yellow-poplar Black walnut Shortleaf pine Loblolly pine	3o7
<u>Monongahela</u> silt loam to gravelly loam 0 to 12% slopes	<u>Yellow-poplar</u> Upland oaks Shortleaf pine <u>Loblolly pine</u> Virginia pine White pine	90* 73+6 70* 81+6 70* 80*	86-95 64-82 65-75 70-88 65-75 76-85	Slight	Slight	Slight	Loblolly pine Shortleaf pine Virginia pine White pine	3o7

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Soils	Potential Productivity			Management Problems			Species Suitable for Planting	Ordination Woodland Suitability Group
	Tree Species	Avg. Site Index & Standard Deviation	Range of Site Index	Erosion Hazard	Equipment Restriction	Seedling Mortality		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
<u>Montevallo</u> shaly silt loam 20 to 20% slopes ----- 20 to 45% slopes north and east exposures ----- 20 to 45% slopes south and west exposures	Loblolly pine <u>Shortleaf pine</u> Virginia pine White pine	64+11 63+7 56+8 70*	52-89 51-75 46-72 66-75	Slight to Moderate ----- Moderate to Severe	Slight ----- Moderate	Moderate to Severe ----- Moderate to Severe	Loblolly pine Shortleaf pine Virginia pine White pine	4d3
	<u>Loblolly pine</u> <u>Shortleaf pine</u> <u>Virginia pine</u>	60* 50* 50*	56-65 46-55 46-55	Moderate to Severe	Moderate	Severe	Loblolly pine Virginia pine	5d3
<u>Mullins</u> silt loam, 0 to 2% slopes	<u>Bottomland oaks</u> Sweetgum Loblolly pine Red maple	90* 90* 90* -	86-95 86-95 86-95 -	Slight	Severe	Severe	Loblolly pine	2w9
<u>Muse</u> silt loam to silty clay loam 5 to 20% slopes ----- silty clay, 5 to 20% slopes, eroded	<u>Yellow-poplar</u> Upland oaks <u>Shortleaf pine</u> <u>Loblolly pine</u> Virginia pine Black walnut White pine	90* 70* 59 76 62+3 - 80*	86-95 66-75 66-75 76-85 66-75 - 76-85	Slight	Slight	Slight	Yellow-poplar Black walnut Loblolly pine Shortleaf pine White pine	3o7
	<u>Loblolly pine</u> Virginia pine White pine	70* 60* 70*	66-75 56-65 66-75	Slight	Moderate	Moderate	Loblolly pine Virginia pine	4c3e
<u>Muskingum</u> silt loam to fine sandy loam 5 to 20% slopes ----- 20 to 45% slopes north and east aspect ----- 20 to 45% slopes south and west aspects and ridge tops ----- stony loam, 5 to 45% slopes	Yellow-poplar Upland oaks <u>Shortleaf pine</u> Loblolly pine Virginia pine White pine	80* 60* 60* 70* 60* 70*	76-85 56-65 56-65 66-75 56-65 66-75	Slight ----- Moderate	Slight ----- Moderate	Slight ----- Slight	Loblolly pine Shortleaf pine Virginia pine White pine	4o1
	<u>Shortleaf pine</u> Loblolly pine Virginia pine White pine	50* 60* 50* 60*	46-55 56-65 46-55 56-65	Moderate to Severe	Moderate to Severe	Moderate		4r2
	<u>Shortleaf pine</u> Loblolly pine Virginia pine White pine	50* 60* 50* 60*	46-55 56-65 46-55 56-65	Moderate to Severe	Moderate to Severe	Moderate		5r3
				Slight to Severe	Slight to Severe	Slight to Moderate		5x3
<u>Needmore</u> silt loam, 2 to 12% slopes ----- silty clay loam 2 to 12% slopes severely eroded	Upland oaks <u>Shortleaf pine</u> Virginia pine Eastern redcedar	70* 70* 70* 50*	66-75 66-75 66-75 46-55	Slight	Slight	Moderate	Loblolly pine Shortleaf pine Virginia pine	3c2
	Virginia pine <u>Eastern redcedar</u>	60* 40*	56-65 36-45	Slight	Moderate	Moderate to Severe	Loblolly pine Virginia pine Eastern redcedar	4c3e

TABLE 2. SOIL RATINGS FOR WOODLAND USE
Cumberland Plateau and Southern Appalachians

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Soils	Potential Productivity			Management Problems			Species Suitable for Planting	Ordination Woodland Suitability Group
	Tree Species	Avg. Site Index & Standard Deviation	Range of Site Index	Erosion Hazard	Equipment Restriction	Seedling Mortality		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
<u>Neubert</u> loam, 0 to 12% slopes	<u>Yellow-poplar</u>	100*	96-105	Slight	Slight	Slight	Yellow-poplar Black walnut Loblolly pine	2o7
	Upland oaks	80*	76-85					
	Shortleaf pine	80*	76-85					
	Loblolly pine	90*	86-95					
	Virginia pine	80*	76-85					
	Black walnut	-	-					
	Black cherry	-	-					
	White ash	-	-					
<u>Newark</u> silt loam, 0-2% slopes	<u>Loblolly pine</u>	90*	86-95	Slight	Moderate	Slight	Loblolly pine Sweetgum Cottonwood	2w8
	Bottomland oaks	90*	86-95					
	Green ash	-	-					
	Sweetgum	90*	86-95					
<u>Nolichucky</u> silt loam to gravelly fine sandy loam, 2 to 20% slopes ----- 20 to 30% slopes	<u>Yellow-poplar</u>	90*	86-95	Slight	Slight	Slight	Shortleaf pine Loblolly pine White pine	3o7
	Upland oaks	70*	66-75					
	Shortleaf pine	70*	66-75					
	Loblolly pine	80*	76-85					
	Virginia pine	70*	66-75	Moderate	Moderate	Slight		3r8
	<u>White pine</u>	80	76-85					
<u>Philo</u> silt loam to fine sandy loam 0 to 5% slopes	<u>Loblolly pine</u>	84+6	78-91	Slight	Moderate	Slight	Loblolly pine Yellow-poplar White pine Cottonwood	2w8
	<u>Yellow-poplar</u>	100*	96-105					
	Upland oaks	80*	76-85					
	Shortleaf pine	80	76-85					
	Sweetgum	90*	86-95					
	White pine	90*	86-95					
<u>Pope</u> silt loam to gravelly fine sandy loam, 0 to 5% slopes	<u>Yellow-poplar</u>	103	96-105	Slight	Slight	Slight	Yellow-poplar Black walnut Loblolly pine White pine	2o7
	Upland oaks	80*	76-85					
	Shortleaf pine	80*	76-85					
	Loblolly pine	90*	86-95					
	Virginia pine	74+5	71-80					
	White pine	90*	86-95					
	Black walnut	-	-					
<u>Purdy</u> silt loam to fine sandy loam 0 to 5% slopes	<u>Bottomland oaks</u>	90*	86-95	Slight	Severe	Severe	Loblolly pine Sweetgum	2w9
	Sweetgum	90*	86-95					
	Loblolly pine	90*	86-95					
	Upland oaks	80*	76-85					
	Green ash	-	-					
<u>Ramsey</u> loam to fine sandy loam, 5 to 20% slopes ----- 20 to 70% slopes north and east aspect ----- stony loam to very stony loam 20 to 70% slopes north and east aspect -----	<u>Upland oaks</u>	61+19	46-80	Slight	Slight	Moderate to Severe	Virginia pine Shortleaf pine White pine Loblolly pine	4d3
	<u>Shortleaf pine</u>	59+7	50-69					
	Virginia pine	66	61-76					
	Loblolly pine	73+6	60-81					
	White pine	70*	66-75	Moderate to Severe	Moderate to Severe	Moderate		4x3
				Moderate to Severe	Moderate to Severe	Moderate		

TABLE 2. SOIL RATINGS FOR WOODLAND USE

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Cumberland Plateau and Southern Appalachians

Soils	Potential Productivity			Management Problems			Species Suitable for Planting	Ordination Woodland Suitability Group
	Tree Species	Avg. Site Index & Standard Deviation	Range of Site Index	Erosion Hazard	Equipment Restriction	Seedling Mortality		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Ramsey (continued) loam to fine sandy loam, 20 to 70% slopes south and west aspects ----- stony loam to very stony loam 20 to 70% slopes south and west aspect	Upland oaks Shortleaf pine Virginia pine Loblolly pine White pine	50* 50* 50* 60* 60*	46-55 46-55 46-55 56-65 56-65	Moderate to Severe Moderate to Severe	Moderate to Severe Moderate to Severe	Moderate Moderate	Virginia pine Shortleaf pine Loblolly pine 	

TABLE 2. SOIL RATINGS FOR WOODLAND USE

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Cumberland Plateau and Southern Appalachians

Soils	Potential Productivity			Management Problems			Species Suitable for Planting	Ordination Woodland Suitability Group
	Tree Species	Avg. Site Index & Standard Deviation	Range of Site Index	Erosion Hazard	Equipment Restriction	Seedling Mortality		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
<u>Talbott</u> silt loam to silty clay loam 2 to 20% slopes	Upland oaks <u>Loblolly pine</u> <u>Shortleaf pine</u> Virginia pine <u>Eastern redcedar</u>	65* 80 64+6 70* 46+5	60-70 76-85 56-72 66-75 42-52	Slight	Slight to Moderate	Slight to Moderate	Loblolly pine Virginia pine Shortleaf pine Eastern redcedar	3c2
silty clay, 5 to 20% slopes severely eroded	<u>Loblolly pine</u> Virginia pine <u>Eastern redcedar</u>	70* 60* 40*	66-75 56-65 36-45	Slight	Moderate	Severe	Loblolly pine Virginia pine Eastern redcedar	4c3e
very rocky silty clay, 5 to 30% slopes				Slight	Severe	Severe		4x3
<u>Tarklin</u> silt loam to cherty silt loam, 0 to 20% slopes	<u>Yellow-poplar</u> Upland oaks Loblolly pine Shortleaf pine Virginia pine	90* 70* 80* 70* 70*	86-95 66-75 76-85 66-75 66-75	Slight	Slight	Slight	Loblolly pine Shortleaf pine Virginia pine	3o7
<u>Teas</u> loam, 5 to 20% slopes	Upland oaks <u>Shortleaf pine</u> <u>Virginia pine</u> Loblolly pine White pine	60* 60* 60* 70* 70*	56-65 56-65 56-65 66-75 66-75	Slight	Slight	Moderate to Severe	Loblolly pine Shortleaf pine Virginia pine White pine	4f3
20 to 45% slopes north and east aspect				Moderate	Moderate	Severe		
20 to 45% slopes, south and west aspect	Shortleaf pine <u>Virginia pine</u> Loblolly pine	50 50 60	45-55 45-55 55-65	Moderate	Moderate	Severe	Loblolly pine Virginia pine	5f3
<u>Tellico</u> loam to fine sandy loam, 2 to 20% slopes	Upland oaks <u>Shortleaf pine</u> <u>Virginia pine</u> Loblolly pine White pine	70* 68 76 80* 80*	66-75 61-75 67-85 76-85 76-85	Slight	Slight	Slight	Shortleaf pine Virginia pine Loblolly pine White pine	3o7
20 to 30% slopes	Yellow-poplar	90*	86-95	Moderate	Moderate	Slight		3r8
clay loam to fine sandy clay loam, 12 to 30% slopes, severely eroded	Shortleaf pine <u>Virginia pine</u> White pine Loblolly pine	60* 60* 70* 70*	56-65 56-65 66-75 66-75	Slight to Moderate	Moderate to Severe	Moderate	Virginia pine Loblolly pine White pine	4c3e
<u>Tilsit</u> silt loam, 2 to 12% slopes	Yellow-poplar Upland oaks <u>Shortleaf pine</u> Virginia pine Loblolly pine White pine	90* 69+12 70+8 72 76 80*	86-95 56-84 60-75 71-73 70-82 76-83	Slight	Slight	Slight	Shortleaf pine Virginia pine Loblolly pine White pine	3o7
<u>Townley</u> silt loam to clay loam, 2 to 20% slopes	Loblolly pine <u>Shortleaf pine</u> Virginia pine	75+5 59+5 70+6	68-90 50-65 62-77	Slight	Slight	Slight	Loblolly pine Virginia pine	4o1
<u>Tupelo</u> silt loam to loam, 0 to 5% slopes	Yellow-poplar Upland oaks Loblolly pine <u>Sweetgum</u>	90* 70* 80* 80*	86-95 66-75 76-85 76-85	Slight	Moderate	Moderate	Loblolly pine	3w8

TABLE 2. SOIL RATINGS FOR WOODLAND USE
Cumberland Plateau and Southern Appalachians

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Soils	Potential Productivity			Management Problems			Species Suitable for Planting	Ordination
	Tree Species	Avg. Site Index & Standard Deviation	Range of Site Index	Erosion Hazard	Equipment Restriction	Seedling Mortality		Woodland Suitability Group
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
<u>Tyler</u> silt loam to loam, 0 to 5% slopes	Yellow-poplar Upland oaks Loblolly pine Sweetgum	90* 70* 79 70*	86-95 66-75 75-82 66-75	Slight	Severe	Severe	Loblolly pine	3w9
<u>Upshur</u> silt loam to silty clay loam 2 to 20% slopes	Upland oaks Shortleaf pine Virginia pine White pine Eastern redcedar	60* 60* 60* 70* 40*	56-65 56-65 56-65 66-75 36-45	Slight	Moderate	Moderate	Shortleaf pine Virginia pine White pine	4c2
clay, 5 to 20% slopes, eroded	Virginia pine White pine Eastern redcedar	50* 60* 30*	46-55 46-55 26-35	Slight to Moderate	Moderate	Moderate	Virginia pine Eastern redcedar	5c3
<u>Waynesboro</u> loam to gravelly loam, 2 to 20% slopes	Yellow-poplar Upland oaks Loblolly pine Shortleaf pine Virginia pine	90* 75* 80* 70* 77+6	86-95 70-80 76-85 66-76 69-86	Slight	Slight	Slight	Yellow-poplar Black walnut Loblolly pine Shortleaf pine Virginia pine	3o7
20 to 30% slopes	White pine Black walnut	80* -	76-85 -	Moderate	Moderate	Slight	White pine	3r8
clay loam to gravelly clay loam, 5 to 30% slopes, severely eroded	Loblolly pine Shortleaf pine Virginia pine White pine	70* 60* 65* 70*	66-75 56-65 60-70 66-75	Slight to Moderate	Moderate to Severe	Moderate to Severe	Loblolly pine Virginia pine	4c3a
<u>Weaver</u> silt loam, 0 to 2% slopes	Yellow-poplar Upland oaks Loblolly pine Sweetgum White pine Black walnut	100* 80* 90* 90* 90* -	96-105 76-85 86-95 86-95 86-95 -	Slight	Moderate	Slight	Yellow-poplar Black walnut Loblolly pine White pine	2w8
<u>Wehadkee</u> silt loam to fine sandy loam 0 to 2% slopes	Yellow-poplar Upland oaks Bottomland oaks Sweetgum White pine	90* 70* 90* 90* 90*	86-95 66-75 86-95 86-95 86-95	Slight	Severe	Severe	White pine Loblolly pine Sweetgum	2w9
<u>Wellston</u> silt loam to fine sandy loam 2 to 20% slopes	Upland oaks Shortleaf pine Virginia pine Loblolly pine White pine	70* 70* 70* 80* 80*	66-75 66-75 66-75 76-85 76-85	Slight	Slight	Slight	Loblolly pine Shortleaf pine Virginia pine White pine	3o7
<u>Whitesburg</u> silt loam, 0 to 5% slopes	Yellow-poplar Upland oaks Bottomland oaks Sweetgum White pine Black locust	95* 75* 90* 90* 90* -	90-100 70-80 86-95 86-95 86-95 -	Slight	Moderate	Moderate	White pine Black locust Loblolly pine	2w8
<u>Whitwell</u> loam to silt loam, 0 to 5% slopes	Yellow-poplar Upland oaks Sweetgum Loblolly pine White pine	95* 75* 90* 90* 90*	90-100 70-80 86-95 86-95 86-95	Slight	Moderate	Moderate	Loblolly pine White pine Sweetgum	2w8

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Table 3, SOIL GROUPINGS ACCORDING TO WOODLAND SUITABILITY, is a summary of the most important interpretations for a woodland suitability group of soils.

Column one (1) includes the suitability group symbol and a brief description of the group of soils, including their important hazards and limitations for woodland use and management.

Column two (2) is a tabulation of the soils within each woodland suitability group.

Column three (3) is a list of some commercially-important tree species which occur on the soils in each suitability group.

Column four (4) shows the site class (site index rounded off to the nearest 10-foot interval) for the most important tree species listed in column three.

Column five (5) lists some of the most important tree species which are suitable for planting or direct seeding on the soils in each suitability group.

TABLE 3. SOIL GROUPINGS ACCORDING TO WOODLAND SUITABILITY

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Cumberland Plateau and Southern Appalachians

Woodland Suitability Group (Symbol and Description)	Soils	Productivity		Species Suitable for Planting
		Tree Species	Site Class	
(1)	(2)	(3)	(4)	(5)
2o7 Loamy soils with high potential productivity; no serious management problems; suitable for needleleaf or broadleaf trees.	<u>Alleghany</u> silt loam to fine sandy loam, 2-20% slopes	Yellow-poplar	100	Yellow-poplar
	<u>Barbourville</u> silt loam to fine sandy loam, 0-12% slopes	Red oaks	80	White pine
	<u>Camp</u> silt loam, 0-12% slopes	White oaks	70	Black walnut
	<u>Caylor</u> silt loam to loam, 2-20% slopes	White pine	90	Loblolly pine
	<u>Chagrín</u> silt loam, 0-5% slopes	White ash	-	
	<u>Comus</u> loam to sandy loam, 0-5% slopes	Black cherry	-	
	<u>Egam</u> silt loam to silty clay loam, 0-5% slopes	Black walnut	-	
	<u>Emory</u> silt loam, 0-5% slopes	Sugar maple	-	
	<u>Ennis</u> silt loam and cherty silt loam, 0-5% slopes	Shortleaf pine	80	
	<u>Etowah</u> silt loam to cherty silty clay loam, 2-12% slopes	Loblolly pine	90	
	<u>Greendale</u> silt loam and cherty silt loam, 0-12% slopes			
	<u>Humphreys</u> silt loam, 2-20% slopes			
	<u>Huntington</u> silt loam, 0-5% slopes			
	<u>Neubert</u> loam, 0-12% slopes			
	<u>Pope</u> silt loam to gravelly fine sandy loam, 0-5% slopes			
	<u>Sequatchie</u> silt loam to gravelly fine sandy loam, 2-20% slopes			
	<u>Staser</u> loam to gravelly fine sandy loam, 0-5% slopes			
2w8 Seasonally wet soils with high potential productivity; moderate equipment restrictions and slight to moderate seedling mortality; suitable for broadleaf or needleleaf trees.	<u>Chewacla</u> silt loam to fine sandy loam, 0-5% slopes	Yellow-poplar	100	Yellow-poplar
	<u>Codorus</u> silt loam to fine sandy loam, 0-5% slopes	Red oaks	80	Loblolly pine
	<u>Cotaco</u> loam to fine sandy loam, 2-12% slopes	White oaks	80	Black walnut
	<u>Hambleton</u> silt loam to fine sandy loam, 0-5% slopes	Loblolly pine	90	White pine
	<u>Lindside</u> silt loam and cherty silt loam, 0-5% slopes	Shortleaf pine	80	
	<u>Lobelville</u> silt loam and cherty silt loam, 0-5% slopes	Black walnut	-	
	<u>Newark</u> silt loam, 0-2% slopes	White ash	-	
	<u>Philo</u> silt loam to fine sandy loam, 0-5% slopes			
	<u>Weaver</u> silt loam, 0-2% slopes			
	<u>Whitesburg</u> silt loam, 0-5% slopes			
	<u>Whitwell</u> loam to silt loam, 0-5% slopes			
2w9 Excessively wet soils with high potential productivity; severe equipment restrictions and moderate to severe seedling mortality; suitable for broadleaf or needleleaf trees.	<u>Atkins</u> silt loam to fine sandy loam, 0-2% slopes	Loblolly pine	90	Loblolly pine
	<u>Dunning</u> silty clay loam to silty clay, 0-5% slopes	Sweetgum	90	Sycamore
	<u>Elkins</u> silt loam, 0-2% slopes	Red oaks	80	Sweetgum
	<u>Lee</u> silt loam and cherty silt loam, 0-5% slopes	White oaks	80	
	<u>Melvin</u> silt loam, 0-2% slopes	Sycamore	-	
	<u>Mullins</u> silt loam, 0-2% slopes	Red maple		
	<u>Purdy</u> silt loam to fine sandy loam, 0-5% slopes			
	<u>Robertsville</u> silt loam, 0-2% slopes			
	<u>Wehadkee</u> silt loam to fine sandy loam, 0-2% slopes			

TABLE 3. SOIL GROUPINGS ACCORDING TO WOODLAND SUITABILITY

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Cumberland Plateau and Southern Appalachians				
Woodland Suitability Group (Symbol and Description)	Soils	Productivity		Species Suitable for Planting
		Tree Species	Site Class	
(1)	(2)	(3)	(4)	(5)
3o7 Loamy soils with moderately high productivity; no serious management problems; suitable for needleleaf or broadleaf trees.	Albertville fine sandy loam to loam, 2-12% slopes	Loblolly pine	80	Yellow-poplar
	Alcoa loam to silt loam, 2-20% slopes	Yellow-poplar	90	Loblolly pine
	Allen fine sandy loam to clay loam, 2-20% slopes	Virginia pine	70	Shortleaf pine
	Apison clay loam to fine sandy loam, 2-20% slopes	Shortleaf pine	70	White pine
	Bolton loam to silt loam, 5-20% slopes	White pine	80	Black walnut
	Bradyville silt loam to silty clay loam, 0-20% slopes	Red oaks	70	Virginia pine
	Capshaw silt loam to loam, 0-12% slopes	White oaks	70	
	Captina silt loam, 0-12% slopes	Black walnut	-	
	Christian silt loam to silty clay loam, 2-20% slopes			
	Claiborne silt loam and cherty silt loam, 5-20% slopes			
	Clymer silt loam to sandy clay, 2-20% slopes			
	Cumberland silt loam to silty clay loam, 2-20% slopes			
	Decatur silt loam and gravelly silt loam, 2-20% slopes			
	Dewey silt loam, 2-20% slopes			
	Dunmore silt loam to silty clay loam, 2-20% slopes			
	Farragut silt loam to silty clay loam, 2-20% slopes			
	Fullerton silt loam and cherty silt loam, 5-20% slopes			
	Gilpin silt loam to loam, 5-20% slopes			
	Groseclose silt loam to silty clay loam, 2-20% slopes			
	Holston loam and gravelly loam, 2-20% slopes			
	Jefferson silt loam to fine sandy loam, 2-20% slopes			
	Landisburg silt loam and cherty silt loam, 0-20% slopes			
	Leadvale silt loam, 2-20% slopes			
	Minvale silt loam and cherty silt loam, 2-20% slopes			
	Monongahela silt loam to gravelly loam, 0-12% slopes			
	Muse silt loam to silty clay loam, 5-20% slopes			
	Nolichucky silt loam to gravelly fine sandy loam, 2-20% slopes			
	Sequoia silt loam to silty clay loam, 2-20% slopes			
	Shouns silt loam to silty clay loam, 2-20% slopes			
	Tarklin silt loam and cherty silt loam, 0-20% slopes			
	Tellico loam to fine sandy loam, 2-20% slopes			
	Tilsit silt loam, 0-12% slopes			
	Waynesboro loam and gravelly loam, 2-20% slopes			
	Wellston silt loam to fine sandy loam, 2-20% slopes			

TABLE 3. SOIL GROUPINGS ACCORDING TO WOODLAND SUITABILITY

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Cumberland Plateau and Southern Appalachians				
Woodland Suitability Group (Symbol and Description) (1)	Soils (2)	Productivity		Species Suitable for Planting (5)
		Tree Species (3)	Site Class (4)	
3r8 Loamy soils with moderately high productivity on slopes greater than 20%; moderate erosion hazard and equipment limitations; suitable for needleleaf and/or broadleaf trees.	<u>Allen</u> fine sandy loam to clay loam, 20-45% slopes <u>Bolton</u> loam to silt loam, 20-45% slopes <u>Claiborne</u> silt loam and cherty silt loam, 20-30% slopes <u>Decatur</u> silt loam and gravelly silt loam, 20-30% slopes <u>Dewey</u> silt loam, 2-20% slopes <u>Dunmore</u> silt loam to silty clay loam, 20-30% slopes <u>Fullerton</u> silt loam to cherty silt loam, 20-45% slopes <u>Gilpin</u> silt loam to loam, 20-45% slopes <u>Groseclose</u> silt loam to silty clay loam, 20-30% slopes <u>Jefferson</u> silt loam to fine sandy loam, 20-30% slopes <u>Nolichucky</u> silt loam to gravelly fine sandy loam, 20-30% slopes <u>Shouns</u> silt loam to silty clay loam, 20-30% slopes <u>Tellico</u> loam to fine sandy loam, 20-30% slopes <u>Waynesboro</u> loam to gravelly loam, 20-30% slopes	Yellow-poplar	90	Yellow-poplar
		Shortleaf pine	70	Loblolly pine
		Virginia pine	70	White pine
		Red oaks	70	Virginia pine
		White oaks	70	Shortleaf pine
		Black walnut	-	Black walnut
		Black cherry	-	
		White ash	-	
		Eastern redcedar	50+	
3x8 Stony or rocky soils with moderately high potential productivity; moderate equipment limitations and slight to moderate erosion hazard; suitable for needleleaf and/or broadleaf trees.	<u>Allen</u> stony fine sandy loam to stony loam, 12-45% slopes <u>Dunmore</u> very rocky silt loam to silty clay loam, 5-30% slopes <u>Jefferson</u> cobbly loam to very stony loam, 5-30% slopes	Yellow-poplar	90	Yellow-poplar
		Shortleaf pine	70	Shortleaf pine
		Virginia pine	70	Loblolly pine
		Loblolly pine	80	Virginia pine
		Black walnut	-	White pine
		Red oaks	70	Black walnut
		White oaks	-	
		Sugar maple	-	
3f8 Fragmental soils with moderately high productivity; moderate seedling mortality and slight to moderate erosion hazard and equipment limitations; suitable for needleleaf and/or broadleaf trees.	<u>Bodine</u> cherty silt loam, 5-20% slopes on all aspects and 20-40% slopes on north aspects <u>Elliber</u> cherty silt loam, 12-20% slopes on all aspects and 20-40% slopes on north aspects <u>Litz</u> silt loam to loam, 5-30% slopes	Shortleaf pine	60	Loblolly pine
		Yellow-poplar	90	Shortleaf pine
		Red oaks	70	
		White oaks		
		Virginia pine		
3c2 Clayey soils with moderate productivity, moderate seedling mortality and slight to moderate equipment restrictions; best suited for needleleaf trees.	<u>Conasauga</u> silt loam, 2-20% slopes <u>Needmore</u> silt loam, 2-12% slopes <u>Talbot</u> silt loam to silty clay loam, 2-20% slopes	Shortleaf pine	70	Loblolly pine
		Virginia pine	70	Virginia pine
		Loblolly pine	70	
		Eastern redcedar	50	
		Red oaks	70	
3s9 Sandy soils with moderate productivity; severe seedling mortality and moderate equipment limitations; suitable for needleleaf and/or broadleaf trees.	<u>Bruno</u> loamy fine sand to sandy loam, 0-5% slopes	Red oaks	80	Loblolly pine
		White oaks	80	White pine
		Sweetgum	80	Sycamore
		Sycamore	90	
		Loblolly pine	80	

TABLE 3. SOIL GROUPINGS ACCORDING TO WOODLAND SUITABILITY

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Cumberland Plateau and Southern Appalachians				
Woodland Suitability Group (Symbol and Description)	Soils	Productivity		Species Suitable for Planting
		Tree Species	Site Class	
(1)	(2)	(3)	(4)	(5)
<u>3w8</u> Seasonally wet soils with moderate productivity; moderate equipment limitations and slight to moderate seedling mortality; suitable for broadleaf and/or needleleaf trees.	<u>Beason</u> silt loam, 0-2% slopes	Yellow-poplar	90	Loblolly pine
	<u>Johnsburg</u> silt loam, 0-5% slopes	Sweetgum	80	Sweetgum
	<u>Taft</u> silt loam, 2-5% slopes	White oaks	70	Yellow-poplar
	<u>Tupelo</u> silt loam to loam, 0-5% slopes	Red oaks	70	
	<u>Wolftever</u> silt loam, 0-5% slopes	Loblolly pine	80	
		Red maple	-	
		Shortleaf pine	70	
<u>3w9</u> Excessively wet soils with moderate productivity; severe equipment restrictions and moderate to severe seedling mortality; suitable for broadleaf and/or needleleaf trees.	<u>Dowellton</u> silt loam, 0-5% slopes	Red oaks	70	Loblolly pine
	<u>Lickdale</u> silt loam to silty clay loam, 0-5% slopes	Sweetgum	80	Sweetgum
	<u>Tyler</u> silt loam to loam, 0-5% slopes	Loblolly pine	80	
		Red maple	-	
<u>4o1</u> Loamy soils with moderate productivity; no serious management problems; best suited for needleleaf trees.	<u>Crossville</u> loam, 2-12% slopes	Shortleaf pine	60	Shortleaf pine
	<u>Enders</u> silt loam to silty clay loam, 2-20% slopes	Virginia pine	60	Virginia pine
	<u>Hartsells</u> loam to fine sandy loam, 2-20% slopes	Loblolly pine	70	Loblolly pine
	<u>Linker</u> loam to fine sandy loam, 0-20% slopes	White pine	70	
	<u>Muskingum</u> silt loam to fine sandy loam, 2-20% slopes			
	<u>Townley</u> silt loam to clay loam, 2-20% slopes			
<u>4r2</u> Loamy soils on steep slopes with moderate productivity; moderate equipment restrictions; best suited for needleleaf trees.	<u>Enders</u> silt loam to silty clay loam, 20-30% slopes	Shortleaf pine	60	Loblolly pine
	<u>Fullerton</u> silt loam on south aspects, 20-45% slopes	Virginia pine	60	Virginia pine
	<u>Gilpin</u> silt loam on south aspects, 20-45% slopes	Loblolly pine	70	
	<u>Muskingum</u> silt loam to fine sandy loam, 20-45% slopes on north aspects	Eastern redcedar	40	
<u>4c2</u> Clayey soils with moderate productivity; moderate equipment limitations and seedling mortality; slight to moderate erosion hazard; best suited for needleleaf trees.	<u>Albertville</u> fine sandy clay loam to clay, 2-12% slopes, eroded	Loblolly pine	70	Loblolly pine
	<u>Carbo</u> silt loam to silty clay loam, 0-20% slopes	Shortleaf pine	60	Virginia pine
	<u>Colbert</u> silt loam to silty clay loam, 0-20% slopes	Virginia pine	60	Eastern redcedar
	<u>Upshur</u> silt loam to silty clay loam, 2-20% slopes	Eastern redcedar	40	
<u>4d3</u> Shallow soils with moderate productivity; moderate to severe seedling mortality and slight to moderate erosion hazard and equipment restrictions; best suited for needleleaf trees.	<u>Armuchee</u> silt loam, 2-50% slopes	Shortleaf pine	60	Loblolly pine
	<u>Barfield</u> silty clay loam to clay loam, 1-30% slopes	Virginia pine	60	Virginia pine
	<u>Dandridge</u> silt loam or shaly silt loam, 5-20% slopes	Eastern redcedar	40	Eastern redcedar
	<u>Montevallo</u> shaly silt loam, 2-20% slopes on all aspects and 20-45% slopes on north aspects	Loblolly pine		
	<u>Ramsey</u> loam to fine sandy loam, 5-20% slopes on all aspects and 20-70% slopes on north aspects			

TABLE 3. SOIL GROUPINGS ACCORDING TO WOODLAND SUITABILITY

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Comberland Plateau and Southern Appalachians

Woodland Suitability Group (Symbol and Description)	Soils	Productivity		Species Suitable for Planting
		Tree Species	Site Class	
(1)	(2)	(3)	(4)	(5)
4f3 Fragmental soils with moderate productivity; moderate to severe erosion hazard, equipment restrictions and seedling mortality; best suited for needleleaf trees.	<u>Bodine</u> cherty silt loam, 20-40% slopes on south aspect and ridge tops <u>Elliber</u> cherty silt loam, 20-40% slopes on south aspect and ridge tops <u>Lehew</u> loam to fine sandy loam 5-20% slopes on all aspects and 20-45% slopes on north aspects <u>Teas</u> loam, 5-20% slopes on all aspects, and 20-45% slopes on north aspects	Virginia pine Eastern redcedar Red oaks Shortleaf pine White oaks	60 40 60 60 60	Virginia pine Eastern redcedar
4x3 Stony or rocky soils with moderate productivity; moderate to severe equipment restrictions, seedling mortality and equipment restrictions; best suited for needleleaf trees	<u>Ramsey</u> stony loam, 20-70% slopes on north aspects <u>Talbott</u> very rocky silty clay, 5-30% slopes	Virginia pine Shortleaf pine Loblolly pine Red oaks White pine	60 60 70 60 70	Virginia pine Loblolly pine White pine
4c3e Severely eroded soils with moderate productivity; moderate to severe erosion hazard, equipment restrictions, and seedling mortality; best suited for needleleaf trees.	<u>Bolton</u> silty clay loam to clay loam, 12-30% slopes, severely eroded <u>Christian</u> clay loam to clay, 5-20% slopes severely eroded <u>Claiborne</u> silty clay loam, 5-30% slopes severely eroded <u>Conasauga</u> silty clay, 5-20% slopes severely eroded <u>Cumberland</u> silty clay or clay 5-20% slopes severely eroded <u>Decatur</u> silty clay loam, 5-30% slopes, severely eroded <u>Dewey</u> silty clay loam, 5-30% slopes, severely eroded <u>Dunmore</u> clay, 5-30% slopes, severely eroded <u>Farragut</u> clay, 5-20% slopes, severely eroded <u>Fullerton</u> cherty silty clay loam, 12-45% slopes, severely eroded <u>Groseclose</u> clay, 5-30% slopes severely eroded <u>Litz</u> shaly silty clay loam, 5-20% slopes, severely eroded <u>Muse</u> silty clay, 5-20% slopes, severely eroded <u>Needmore</u> silty clay loam, 2-12% slopes, severely eroded <u>Sequoia</u> silty clay to clay, 2-20% slopes, severely eroded <u>Talbott</u> silty clay, 5-20% slopes, severely eroded <u>Tellico</u> clay loam to fine sandy clay loam, 12-30% slopes, severely eroded <u>Waynesboro</u> clay loam, 5-30% slopes, severely eroded	Shortleaf pine Virginia pine Loblolly pine	60 60 70	Loblolly pine Virginia pine Shortleaf pine

TABLE 3. SOIL GROUPINGS ACCORDING TO WOODLAND SUITABILITY

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Cumberland Plateau and Southern Appalachians

Woodland Suitability Group (Symbol and Description)	Soils	Productivity		Species Suitable for Planting
		Tree Species	Site Class	
(1)	(2)	(3)	(4)	(5)
<u>5d3</u> Shallow soils with low productivity, moderate to severe erosion hazard, equipment restrictions and seedling mortality; best suited for needleleaf trees.	<u>Armuchee</u> silty clay loam to silty clay, 5-20% slopes, severely eroded <u>Dandridge</u> silty clay loam, 5-45% slopes, severely eroded <u>Montevallo</u> shaly silt loam, 20-45% slopes on south aspects <u>Ramsey</u> loam to fine sandy loam, 20-70% slopes on south aspects	Eastern redcedar Virginia pine Shortleaf pine	30 50 50	Eastern redcedar
<u>5f3</u> Fragmental soils with low productivity; moderate to severe equipment restrictions and seedling mortality; best suited for needleleaf trees.	<u>Lehew</u> loam to fine sandy loam, 20-45% slopes on south aspect <u>Teas</u> loam, 20-45% slopes on south and west aspects	Loblolly pine Shortleaf pine Eastern redcedar Virginia pine	60 50 30 50	Virginia pine Loblolly pine Shortleaf pine
<u>5x3</u> Stony or rocky soils with low productivity, moderate to severe equipment restrictions and seedling mortality; best suited for needleleaf trees	<u>Barfield</u> very rocky clay loam, 2-30% slopes <u>Carbo</u> very rocky silty clay to clay, 0-30% slopes <u>Colbert</u> very rocky silty clay to clay, 0-30% slopes <u>Muskingum</u> stony loam, 5-45% slopes <u>Ramsey</u> stony or very stony loam, 20-70% slopes on south aspects	Eastern redcedar	30	Eastern redcedar
<u>5c3</u> Clayey soils with low productivity; moderate to severe erosion hazard, equipment restrictions and seedling mortality; best suited for needleleaf trees.	<u>Carbo</u> silty clay to clay, 0-20% slopes <u>Colbert</u> silty clay to clay, 5-20% slopes <u>Enders</u> silty clay to clay, 5-20% slopes, eroded <u>Upshur</u> clay, 5-20% slopes, eroded	Eastern redcedar Virginia pine Shortleaf pine	30 50 50	Eastern redcedar Virginia pine Loblolly pine
<u>5r3</u> Loamy soils on steep slopes with low productivity; moderate to severe erosion hazard and equipment restrictions; best suited for needleleaf trees.	<u>Muskingum</u> silt loam to loam, 20-45% slopes on south aspects	Shortleaf pine Loblolly pine Virginia pine White pine	50 60 50 60	Virginia pine White pine Shortleaf pine

